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ON THE VALIDITY OF *TRILLIUM* L. SUBG. *PHYLLANTHERUM* RAF. (MELANTHIACEAE; PARIDEAE).

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ABSTRACT

Trillium subg. *Phyllantherum*, long attributed to Rafinesque, is shown not to have been validly published in 1820. Likewise the genus name *Phyllantherum*, long thought not to exist, is shown to have been published by Nieuwland in 1913, albeit as a superfluous name. As a result, the subgeneric name was not validly proposed until inadvertently done so by J.D. Freeman in 1975.

While reviewing various names proposed by Constantin Samuel Rafinesque (1783–1840), we discovered that the commonly used name, "*Trillium* subg. *Phyllantherum*," proposed by Rafinesque in 1820 was not validly published, for while he included three species, viz., *T. sessile* L., *T. petiolatum* Pursh, and *T. tinctorium* Raf., he only provided a Latin description for *T. sessile*, which, as Rafinesque stated, belonged to a "un sous-genre, sous le nom de *phyllantherium*." He did not provide a description for his "subg. *Phyllantherum*."

The above invalidly published subgenus name is now seen in a wide variety of literature from taxonomic (Freeman 1975: 3; Case 2002: 106), ecological (Bock et al. 1989: 96), horticultural (MacGary 1996: 365; Matthews 2011: 160), rare plant investigations (Chafin 2007: 496), and molecular studies (Osaloo et al. 1999; Farmer & Schilling 2002; Schilling et al. 2013).

Rafinesque's subgenus name was first validated as an unranked infrageneric name, *Trillium* L. [unranked] *Phyllantherum,* by Schultes and Schultes f. (1830: 1497); these authors referred to Rafinesque's 1820 publication. Unfortunately, the preceding valid name remained unknown to many botanists. Later the sessile-flowered trilliums were distinguished by Salisbury (1866: 61) at a higher rank when he proposed the genus *Esdra* for a single species, *T. sessile*.

At the generic level, the existence of "*Phyllantherum* Raf." was implied by several early authors (Endlicher 1836: 153; Kunth 1844: 37, 1850: 121; Spach 1846: 210; Orbigny 1848: 652; Pfeiffer 1871: 92, 1874: 692; Jackson 1893: 1119) who listed the name as a synonym. It was Nieuwland (1913: 122) who inadvertently validated the genus name. His reference to Rafinesque's 1820 publication serves as an indirect reference to Schultes and Schultes f., who also referred to Rafinesque (see Melbourne Code Art. 41.3 pertaining to new combinations made before 1953; McNeill & al. 2012). At the same time, Nieuwland established *P. recurvatum* (Beck) Nieuwl. and *P. sessile* (L.) Nieuwl.

Although *Phyllantherum* Nieuwl. was validly and legitimately established, it was superfluous when published. This is because of Nieuwland's citation of *Esdra* as a generic synonym.

When Freeman (1975: 1–3) revised the sessile-flowered trilliums, he assigned them to the subg. *Phyllantherum* (p. 2), which he attributed to Rafinesque without comment. In doing so, Freeman inadvertently validated his subgenus by a full and direct reference to *Phyllantherum* Nieuwl. (p. 3). As in the case of Nieuwland (l.c.), Freeman also did not refer to Schultes and Schultes f. (l.c.), but cited *Esdra* as a synonym. For post-1952 new combinations lacking a direct reference to the basionym, one may apply Art. 41.8a and Ex. 19 and treat Freeman's inadvertent new combination as validly made based on the 1830 Schultes and Schultes f. name.

In summary:

Trillium L. subg. *Phyllantherum* Raf., J. Phys. Chim. Hist. Nat. Arts 91: 72. 1820, nom. inval. (as "*Jrillium*").

Trillium L. [unranked] *Phyllantherum* Schult. & Schult. f. in J.J. Roemer., Syst. Veg. 7(2): 1497. Oct-Dec 1830. – **TYPE**: not designated; **LECTOTYPE**: *T. sessile* L. (vide J.D. Freeman (1975: 2).

Esdra Salisb., Gen. 60. Apr-Mai 1866. – **TYPE**: *Trillium sessile* L..

Phyllantherum (Schult. & Schult. f.) Nieuwl., Amer. Midl. Naturalist 3: 112. Jul 1913 (nom. superfl. for *Esdra*)

Trillium L. subg. *Phyllantherum* (Schult. & Schult. f.) J.D. Freeman, Brittonia 27: 2. 30 Mar 1975.

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